

REMARKS

The examiner rejected Claims 1-14 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner stated in part: "Claim 1 appears to be a "hybrid claim," as both system components and process steps are recited in the body of the claim."

Claim 1 calls for a travel planning system including features of a computer system, a processor and a memory. The memory stores processes for executing on the processor. Applicant contends that these features are definite. Any person of ordinary skill in the art would understand these features to read on at least computer software processes, for execution on a processor. Since computers are well known to execute software, one of ordinary skill in the art would understand the metes and bounds of the claim. Claim 1 also recites a processor and memory for executing the recited processes. Accordingly, since Claim 1 does not claim the processes as disembodied software, but rather as processes in a memory executed by a processor, the features are definite and entitled to patentable weight. Therefore, claim 1 and its respective dependent claims are proper under 35 U.S.C. 112, second paragraph.

Claim 12 was amended to make the claim more readable.

Claims 11-13 deal with aspects of how different sources of availability data are treated in the system. In claim 11, the availability process speculatively determines the travel options using availability data that is determined to be low-quality data, as though the data were high-quality data. Stated another way, the system is configured to speculatively determine availability as if the data was from a high quality source. Applicant for example teaches at page 9, line 14:

The process 70a sends a query to a second source, for instance, when the first source had no information or had a low confidence rating for its information about that query. Typically, the first sources are lower cost, lower quality sources, while the last sources are more expensive, higher quality sources. Not all queries will be submitted to all sources because of prohibitive cost. When the process 70a has availability information for a leg from

more than one source, it uses the data gathered from the highest quality source.

Thus, in Applicant's system, different sources of availability data are ascribed different levels of quality, e.g., low quality or high quality, and the system treats, processes and/or uses the data differently depending on the quality of the data.

In response to the applicant's prior remarks the examiner states in part: "In particular, it is unclear what the applicant means by "low-quality data" and "high-quality data" and how the system/method would process these data in a similar or differential manner."

Applicant contends the claims clearly and distinctly point out the subject matter of the invention. The examiner has improperly rejected these claims in an attempt to make Applicant add additional, unnecessary limitations to the claims. However, such limitations would merely serve to narrow the scope of the claims, and would be improper because the examiner cannot find any reference that teaches the claimed features, which would necessitate Applicant narrowing the scope of the claims.

Accordingly, Applicant contends that claims 1-14 particularly point out and distinction claim the subject matter of their invention.

Applicant has amended claim 21 to add the word "on."

The examiner rejected Claims 21, 22 and 26 under 35 U.S.C. 102(e) as being anticipated by Lynch et al. US Patent No. 6,119,094 (Lynch '094).

Claim 21, as amended, is allowable over Lynch '094. Claim 21 now recites producing in the computer system a second set of seat availability queries, to send to a different source of seat availability information based on evaluating quality of the availability information to provide the set of instances of transportation for which a seat is available.

Lynch '094 does not suggest to send a second set of seat availability queries to a different source of seat availability information based on evaluating quality of the availability information. The examiner contends that Lynch '094 teaches:

- Producing in computer system a first set of seat availability queries to send to a first source of seat availability information for a first set of instances of transportation (col. 6, lines 41-56; col. 7, lines 8-20; lines 29-32; col. 9, line 47-col. 10, line 5)
- evaluating in a computer system a quality measure of seat availability information received from the first source of seat availability information to guide a travel planning system in determining a set of instances of transportation for which a seat is available. (column 2, lines 60-65; figure 3; column 6, lines 11-57; col. 7, lines 29-32, 46-49; col. 9, lines 1 1-30)
- producing in the computer system a second set of seat availability queries to send to the first or a different source of seat availability information based on the evaluating quality of the availability information to provide the set of instances of transportation for which a seat is available. (See Lynch '094: column 6, lines 11-57; col. 7, lines 29-32, 46-49; col. 9, lines 11-30)

Applicant contends that Lynch '094 fails to teach at least producing... a first set of seat availability queries to send to a first source of seat availability information for a first set of instances of transportation, as argued of record. Applicant further contends however that Lynch fails to describe producing ... a second set of seat availability queries to send to a different source of seat availability information.

According to Lynch '094, Lynch access inventory data to use in determining sets of instances of transportation. In contrast, in Applicant's claim 21, the sets of instances of transportation are used to produce sets of queries to a different source of seat availability information. The examiner incorrectly equates seat availability with instances of transportation.

It is Applicant's contention that Lynch does not address seat availability or alternatively, merely queries a CRS for seat availability information. Lynch does not recognize that there can be many sources of seat availability information, having different levels of quality properties. In Lynch, there is only one source, a computer reservation service. While Lynch teaches multiple CRS's they presumable have the same level of quality properties, and certainly Lynch does not suggest to send seat availability queries to a first source and to a second, different source.

Claim 21 further distinguishes, since Lynch '094 does not teach that the second set of queries is based on evaluating quality of the availability information to provide the set of instances of transportation for which a seat is available.

In response to the applicant's prior remarks the examiner states in part:

In response, the Examiner respectfully disagrees with the Applicant's interpretation of the art, and in particular with the Applicant's narrow interpretation of the term "seat availability data" in the current claim language. As explained in the current art rejection, the Lynch reference does in fact process several types of travel information, including availability data. (See Lynch'094: column 2, lines 60-65; figure 3, column 6, col. 6, lines 10-6, col. 7, lines 46-49; col. 9, lines 11-30—querying one or more central reservation systems1CRS's) The system of Lynch'094 retrieves inventory information for modes of transportation from one or more computer reservation systems. (col. 6, lines 31-38) Moreover, the system/method of Lynch'094 sifts through the retrieved data to find solutions, which match the users parameters. In each case, the Examiner interprets the transportation inventory data and the solutions that match the parameters for a user seeking to book travel arrangements to include seat availability information.

While, Lynch processes several types of travel information, Lynch does not expressly include availability data as one of those types. While it is desirable for low fare searching to produce available solutions, the way the prior art has dealt with is availability was to simple perform live or actual queries for availability information to an availability system. None of the passages cited by the examiner, e.g., Lynch' 094: column 2, lines 60-65; figure 3, column 6, col. 6, lines 10-6, col. 7, lines 46-49; col. 9, lines 11-30) specifically discuss seat availability data.

Accordingly, claim 21 and claims 22 and 23 are allowable over Lynch '094.

The Examiner rejected claims 1-4, 11, 13, 15, 16, 19, 23, and 29-32, under 35 U.S.C. 103(a), as obvious over Lynch, U.S. Patent 6,119,094.

Applicants' claims 1-4, 11, 13, 15, 16, 19, 23, and 29-32, are distinct from Lynch '094.

Claim 1

Claim 1 has been amended to recite a process that determines quality properties of the availability information from the first source of seat availability information, with the quality properties including at least one of confidence, precision and validity.

The Examiner contends that Lynch discloses (at column 2, lines 60-65: col. 6, lines 11-57 and col. 7 lines 46-49) a system to determine quality properties of availability information. However, in the cited passages Lynch discloses a system to update inventory data based on the age of the inventory data. This is not seen suggesting the feature of: determines, based on the quality properties, whether the first source of seat availability information is reliable.

Lynch's query schedule is guided only by a property of Lynch's system, a time period which is fixed in Lynch's system before retrieving any solutions. Lynch does not suggest to alter the query schedule by determining quality properties including at least one of confidence, precision and validity. Thus, as in claim 1, Lynch fails to suggest: "determines quality properties of the availability information from the first source of seat availability information, with the quality properties including at least one of confidence, precision and validity ... and determines, based on the quality properties, whether the first source of seat availability information is reliable." In particular, inventory data in Lynch's system is not updated based on the information sent back to the system.

Claim 15

Claim 15 claims the features of instructions to receive a set of instances of transportation ... determine quality of a first set of seat availability information from a first source of availability information to guide a travel planning system to determine a subsequent set of instances of transportation ..., and if the quality of the seat availability information is low, execute a second set of seat availability queries to the first source or a different source of seat availability information to provide a second set of seat availability information ... and produce, from the second set of seat availability information and a set of the instances of transportation, a set of instances of transportation, for which a seat is available.

Lynch is not directed to the specific problem of seat availability on a mode of transportation, e.g., an airline flight. Rather, Lynch is directed to the problem of determining solutions to travel queries by finding flights and fares useable with the flights. (See Applicant's remarks of record.).

In the "Response to Applicant's Argument," the examiner contended that:

In response, the Examiner respectfully submits that the "plain meanings" of the phrases "seat availability data" and sources of seat availability data have been applied in interpreting the claim language and in applying the prior art.

Applicant apparently argues that no special definition has been applied or fashioned in the specification, but that the industry recognizes that the Applicant's description of "availability data – the travel provider's

willingness to sell the travel for the given cost—is the "industry's standard definition." However, even if applicant's assertion is accurate, it is noted that the passage cited by the Applicant on page 13 of the response does not provide a definition (special or standard) for "seat availability information." Moreover, the fact that the Lynch system retrieves inventory for various fare classes and various prices for different travel providers (col. 3, lines 34-65; col. 4, lines 6-22; col. 6, lines 22-38) means that the seat availability information/availability data in the Lynch does provide information on a travel provider's willingness to sell the travel at a given cost.

The cited passage is again reproduced below:

A travel planning system makes use of many classes of information including scheduling, faring, and availability data. The scheduling data describes where and when a passenger may travel; the faring data defines how much a given travel itinerary will cost; and the availability data describes the travel provider's willingness to sell the travel for the given cost. The availability data is often affected by the travel provider's capacity and their prior sales of similar products at similar prices, and is analogous to a report on remaining inventory.

Sources of seat availability information include, but are not limited to, direct queries to external databases of seat availability information. Each source of availability information typically has associated fixed and marginal costs of obtaining information from that source, including computation, communication, time, and money. Further, each source may return answers with differing freshness, confidence, and validity properties.

Again, Applicant contends that the examiner fails to properly construe "seat availability information." Applicant clearly states that seat availability information is one of several types of data that a travel planning system makes use of, with scheduling and faring data being examples of other types. The scheduling data describes where and when a passenger may travel; the faring data defines how much a given travel itinerary will cost; and the availability data describes the travel provider's willingness to sell the travel for the given cost.

Applicant has not fashioned a special definition for seat availability information, but rather uses a term as the industry uses it, e.g., a mapping from booking code to seat count (for some identified service). Applicant's claims and specification use that term in discussing a

specific situation regarding whether a seat will be made available on a flight; in contrast to the overarching underlying task of determining a travel itinerary complete with fares to use on specific flights.

The examiner contends that Lynch discloses seat availability data by: “retrieves inventory for various fare classes and various prices for different travel providers (col. 3, lines 34-65; col. 4, lines 6-22; col. 6, lines 22-38) means that the seat availability information/availability data in the Lynch does provide information on a travel provider's willingness to sell the travel at a given cost.” Lynch Col. 3 lines 34-65 discuss inventory data, and Col. 4 lines 11-22 define inventory data as:

For airline flights, the inventory information may specify all flights between each particular city of departure and city of destination (otherwise known as a "city pair"), the arrival and departure times of the flights, the airline carriers providing such flights, a description of each flight as either direct or non-direct, the breakdown of all non-direct flights into separate legs or "segments," the identification of each segment of a flight as either domestic or international, the fare classes available on the flights, and pricing information (e.g., one-way ticketing, round-trip ticketing, city-to-city ticketing, or end-to-end ticketing) that can be used to determine the rates of various flights.

While Lynch mentions “fare classes available on the flights,” Applicant contends that such is not seat availability information but merely describing what fare classes are sold for a particular flight.

Lynch's '094 references to “available” are not directed to determining seat availability information, but rather, “the existence of” flight/fare data that can be used to form priced itineraries.” Particular flight/fare combinations may exist or be capable of existing, and hence “available” as used throughout Lynch, but when it comes time to book the existing flight/fare combinations, the airline reservation system may not make a seat available to the particular passenger. “Seat availability” and existence of “flight/fare combinations” are different problems.

Applicants' claims 2-4, 11, 13, 15, 16, 19, 23, and 29-32, are distinct from Lynch '094 generally for the reasons discussed above and of record.

The Examiner rejected claims 5-8, 10, 18, 20, 25 and 27 under 35 U.S.C. 103(a) as being unpatentable over Lynch et al., U.S. Patent 6,119,094 in view of Lynch et al., U.S. Patent 5,839,114.

These claims are distinguished from Lynch '094 and '114, for instance, since neither Lynch '094 nor Lynch '114 separately or in combination suggests the features of Applicants' claim 1, as discussed above. Moreover, neither Lynch '094 nor Lynch '114 separately or in combination describes or suggests that different sources of predicted seat availability information have differing fixed and modular costs associated with obtaining information, as recited in claim 5. Similarly, claims 6-8, 10, 18, 20, 25 and 27 are distinct over Lynch '094 and Lynch '114, for the reasons of record.

The Examiner rejected claims 9, 17 and 24 under 35 U.S.C. 103(a), as being unpatentable over Lynch '094 in view of Walker, U.S. Patent 5,897,620.

Claim 9 distinguishes by reciting that the source of seat availability information is a source of predicted availability information that generates replies with differing quality properties including at least one of freshness, confidence, precision, and validity.

Neither Lynch '094, as discussed above, nor Walker teach prediction of seat availability information. Lynch '094 is concerned with finding sets of flights. Walker mentions an RMS (revenue management system) and uses that RMS system to provide seat availability data. The RMS system taught by Walker supplies "actual seat availability information" in response to a query posed to the RMS system. In contrast, the claimed source in Applicant's claim 9 forms "a prediction" of how an RMS system such as mentioned in Walker will respond to a query. That is, Claim 9 uses a source of predicted availability information, e.g., to predict how a RMS system for example, as mention in Walker would answer a given query for seat availability information. Neither Lynch nor Walker suggest this feature. Hence, claims 9, 17, and 24 further distinguish over Lynch and Walker.

The Examiner rejected claims 12 and 33-34 under 35 U.S.C. 103(a) as being unpatentable over Lynch '094 in view of Hornick, U.S. Patent 5,270,921.

Claim 12 is directed to the situation where low-quality answers are *** guessed or computed internal to the travel planning process. This feature is not described or suggested by the combination of references. Hornick, as with Lynch '094, does not speculatively produce low-quality, availability data and are not returned from any external source of availability information but are guessed or computed internal to the travel planning process.

Hornick, as with Lynch, discusses forecasting demand as in an RMS system. Since the RMS system or the like is external to the travel planning process, it cannot meet the limitations of the claim. Moreover, neither Lynch nor Hornick suggest the possibility of different quality answers that are guessed or computed.

The Examiner rejected claim 14 under 35 U.S.C. 103(a) as being unpatentable over Lynch '094 in view of Slotznick, U.S. Patent 5,983,200.

Claim 14 is distinct from Lynch taken separately or in combination with Slotznick for the reasons mentioned in conjunction with claim 1. The Examiner admits that Lynch does not suggest this feature and Applicant contends that Slotznick neither describes nor suggests an intelligent client for processing and integrating scheduling and fare information and availability data in a travel planning system.

The Examiner rejected claim 28 under 35 U.S.C. 103(a) over Lynch in view of Official Notice.

The Examiner considers that confidence levels are commonly used in "mathematic/probability calculations" and that it would have been obvious to include confidence levels in the calculations performed by Lynch '094."

Clearly, combining the so-called Official Notice teachings with the teachings of Lynch does not suggest Applicant claimed invention because Lynch does not perform the underlying calculations to determine seat availability. Therefore, whether or not the examiner's use of Official Notice is correct, the alleged combination does not suggest Applicant's claimed invention.

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In addition, however, Lynch teaches to retrieve data from CRS's. Hence, the data is what the data is. It is also, not seen how a system described by Lynch would use confidence levels. The confidence levels cannot improve the accuracy of the obtained data, and since Lynch does not test the data but merely determines staleness of the data on a set or fixed schedule, confidence levels would not be of any use to the system taught by Lynch '094.

In view of the above, it is submitted that all of the claims are allowable and allowance is requested.

Enclosed is a \$450 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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Denis G. Maloney
Denis G. Maloney
Reg. No. 29,670

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110
Telephone: (617) 542-5070
Facsimile: (617) 542-8906